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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,297	08/27/2003	Jong Geun Yoon	CIT/K-0019C	3667

7590 04/06/2006

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Chantilly, VA 20153-1200

EXAMINER
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YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



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10/648,297

Yoon et al.

EXAMINER
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Yamitzky

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1774

04032006

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Commissioner for Patents

Attachments: Examiner's amendment and notice of six (6) month suspension of prosecution.  
PTOL-413, Interview Summary

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An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment which places this application in condition for allowance. During a telephone conversation conducted on March 30, 2006, Donald McPhail requested an extension of time for ONE (1) MONTH and authorized the Director to charge Deposit Account No. 16-0607 the required fee of \$120.00 for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Claim 36 has been amended as shown in the following listing of claims (double brackets are used instead of strikethrough to show deleted matter):

1-32. (Canceled)

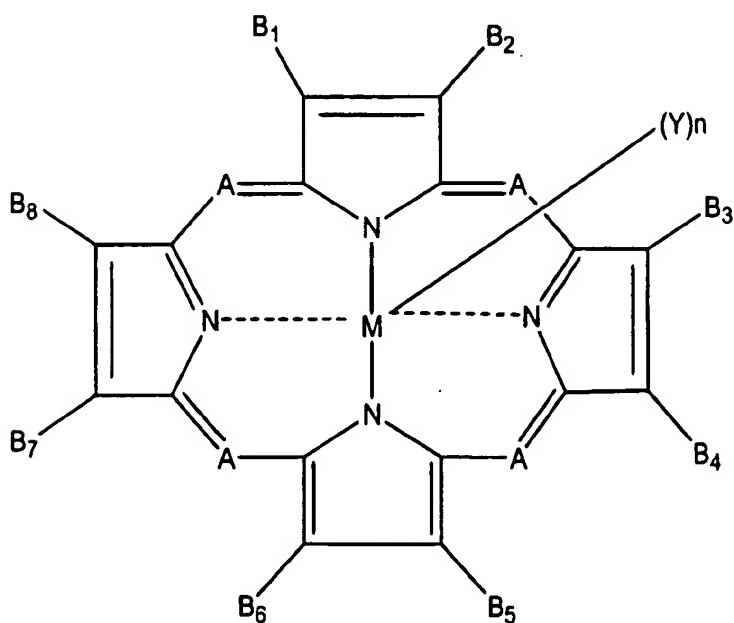
33. (Previously Presented) An organic electroluminescent (EL) device comprising: at least one organic EL multi-layer comprising a luminescent layer and one or more of a hole injecting layer, a hole transporting layer, an electron transporting layer or an electron injecting layer between a first electrode and a second electrode, and a layer I positioned between said second electrode and said at least one organic EL multi-layer, said layer I comprising at least one first material selected from porphyrinic compounds and further comprising a layer II including at least one second material selected from the group consisting of an alkali metal, an alkaline earth metal, and a compound thereof wherein said layer II is positioned between said layer I and

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said organic EL multi-layer or said layer II is positioned between said second electrode and said layer I.

34. (Previously Presented) The device as claimed in claim 33, wherein said at least one first material has the following structure:

## CHEMICAL FORMULA II



where:

$A$  each independently denotes  $-N=$  or  $-C(R)=$ , and  $R$  is hydrogen, alkyl, alkoxy, aralkyl, alkaryl, aryl or a heterocyclic group;

$M$  comprises an element selected from groups IA, IIA, IIIA and IVA, and the third, fourth, fifth and sixth periods of the periodic table;

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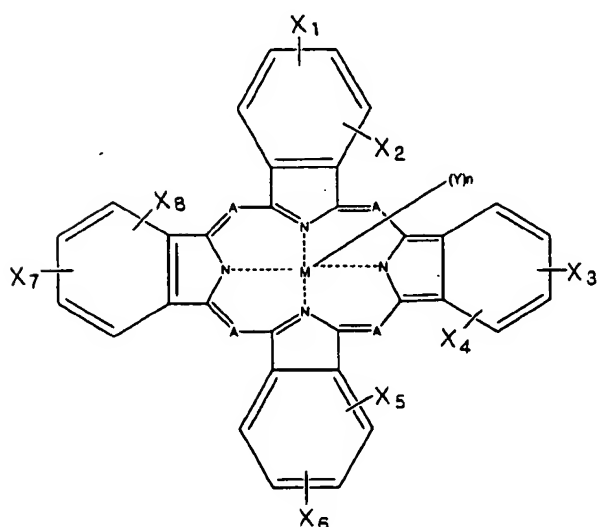
Y is alkoxy, phenoxy, alkylamino, arylamino, an alkylphosphinic group, an arylphosphinic group, alkylsulfur or arylsulfur, or an element selected from groups VIA and VIIA of the periodic table;

n is an integer of 0, 1, or 2; and

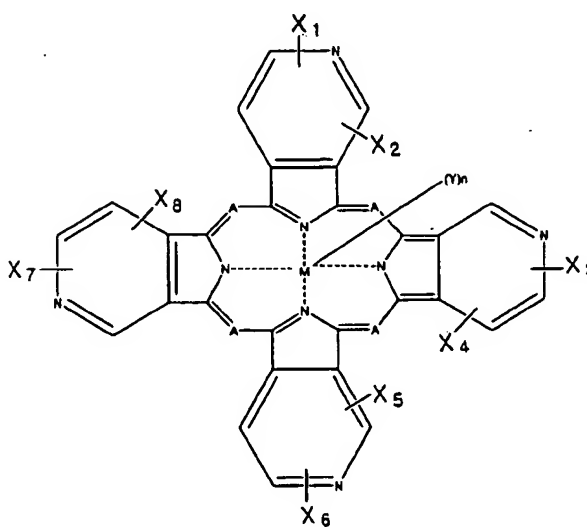
B<sub>1</sub> through B<sub>8</sub> each independently represent hydrogen, alkyl, aryl, alkoxy, aryloxyalkyl, hydroxy, hydroxyalkyl, aralkyl, alkylamino, arylamino, alkylthio, arylthiol, nitroalkyl, alkylcarbonyl, alkoxycarbonyl, phenyl, amino, cyano, naphthyl, alkaryl, a halogen or a heterocyclic group, or at least one among pairs of adjacent substituents of B<sub>1</sub>, through B<sub>8</sub> form an unsaturated or saturated five, six, or seven-numbered ring.

35. (Previously Presented) The device as claimed in claim 33, wherein said at least one first material comprises a compound selected from the group represented by chemical formulas III and IV as shown below:

CHEMICAL FORMULA III



CHEMICAL FORMULA IV



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where:

A each independently denotes  $-N=$  or  $-C(R)=$ ; and R is hydrogen, alkyl, alkoxy, aralkyl, alkaryl, aryl or a heterocyclic group;

M comprises an element selected from groups IA, IIA, IIIA and IVA, and the third, fourth, fifth and sixth periods of the periodic table;

Y is alkoxy, phenoxy, alkylamino, arylamino, an alkylphosphinic group, an arylphosphinic group, alkylsulfur or arylsulfur, or an element selected from groups VIA and VIIA of the periodic table;

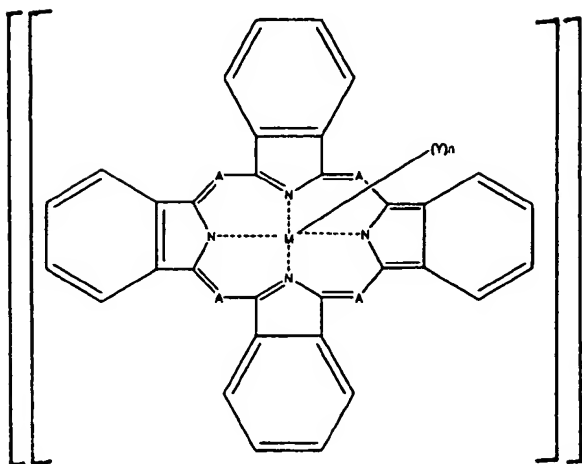
n is an integer of 0, 1, or 2; and,

$X_1$ , through  $X_8$  each independently represent hydrogen, alkyl, aryl, alkoxy, aryloxyalkyl, hydroxy, hydroxyalkyl, aralkyl, alkylamino, arylamino, alkylthio, arylthiol, nitroalkyl, alkylcarbonyl, alkoxycarbonyl, phenyl, amino, cyano, naphthyl, alkaryl, a halogen or a heterocyclic group, or at least one among pairs of adjacent substituents of  $X_1$ , through  $X_8$  form an unsaturated or saturated five, six, or seven-numbered ring.

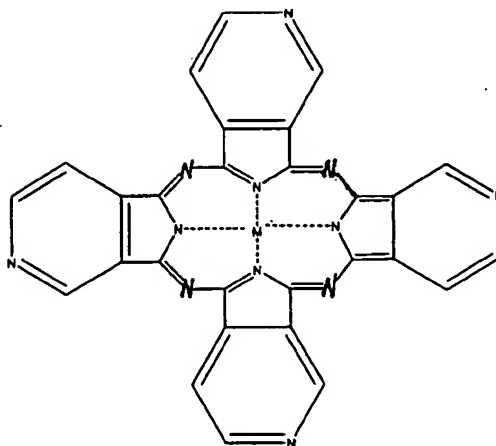
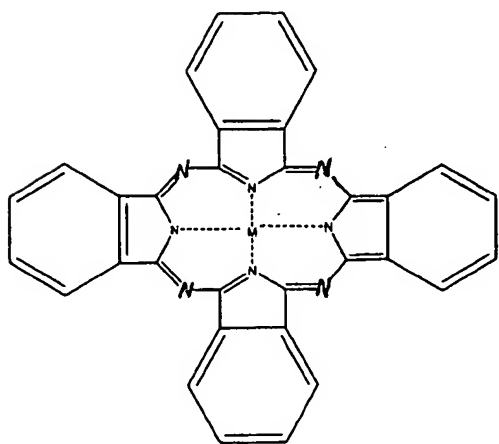
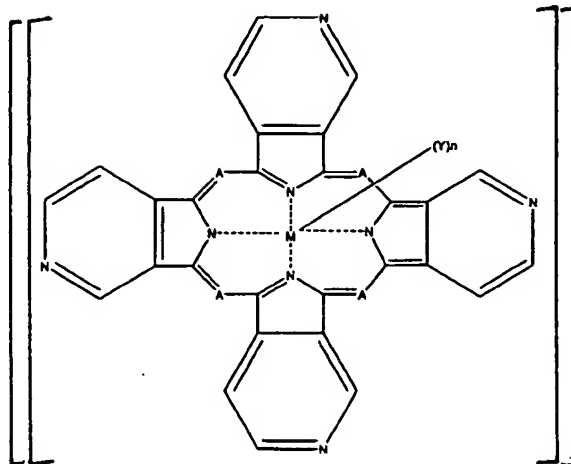
36. (Currently Amended) The device as claimed in claim 33, wherein said at least one first material comprises a compound selected from the group represented by chemical formulas V and VI as shown below:

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CHEMICAL FORMULA V



CHEMICAL FORMULA VI



where:

M is one of Co, AlCl, Cu, 2Li, Fe, Pb, Mg, SiCl<sub>2</sub>, 2Na, Sn, Zn, Ni, Mn, VO, 2Ag, MnCl, SnCl<sub>2</sub>, and TiO.

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37. (Previously Presented) The device as claimed in claim 33, wherein said layer II comprises  $\text{Li}_2\text{O}$ .

38. (Previously Presented) The device as claimed in claim 33, wherein said layer I has a thickness of from about 0.5nm to about 50nm and said layer II has a thickness of from about 0.2nm to about 3nm.

The preceding examiner's amendment corrects errors in formulae V and VI in claim 36 of the amendment filed March 06, 2006. Four occurrences of "A" in both formulae have been changed to --N--, and "--(Y)<sub>n</sub>" has been deleted. These changes are consistent with formulae V and VI as shown in the original disclosure.

All claims are allowable. However, due to a potential interference, *ex parte* prosecution is SUSPENDED FOR A PERIOD OF SIX (6) MONTHS from the date of this letter. Upon expiration of the period of suspension, applicant should make an inquiry as to the status of the application.

Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.



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The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY  
March 31, 2006

A handwritten signature in cursive script that reads "Marie R. Yamnitzky".

MARIE YAMNITZKY  
PRIMARY EXAMINER

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